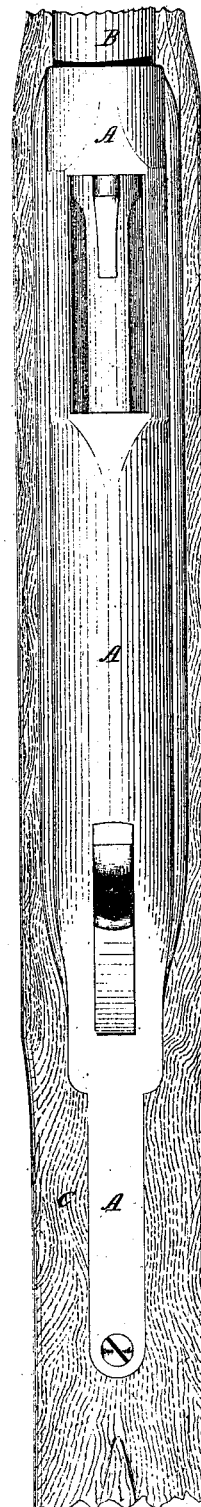
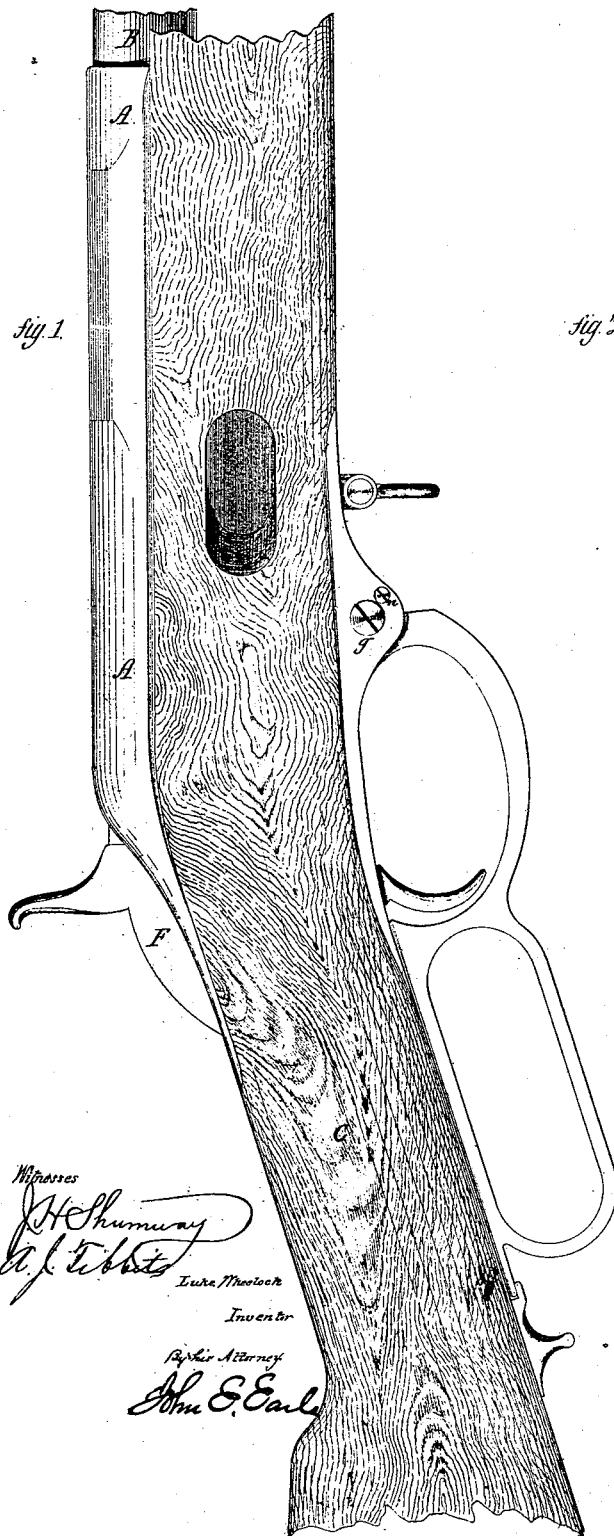


L. WHEELOCK.  
Repeating Fire Arm.

No. 111,500.

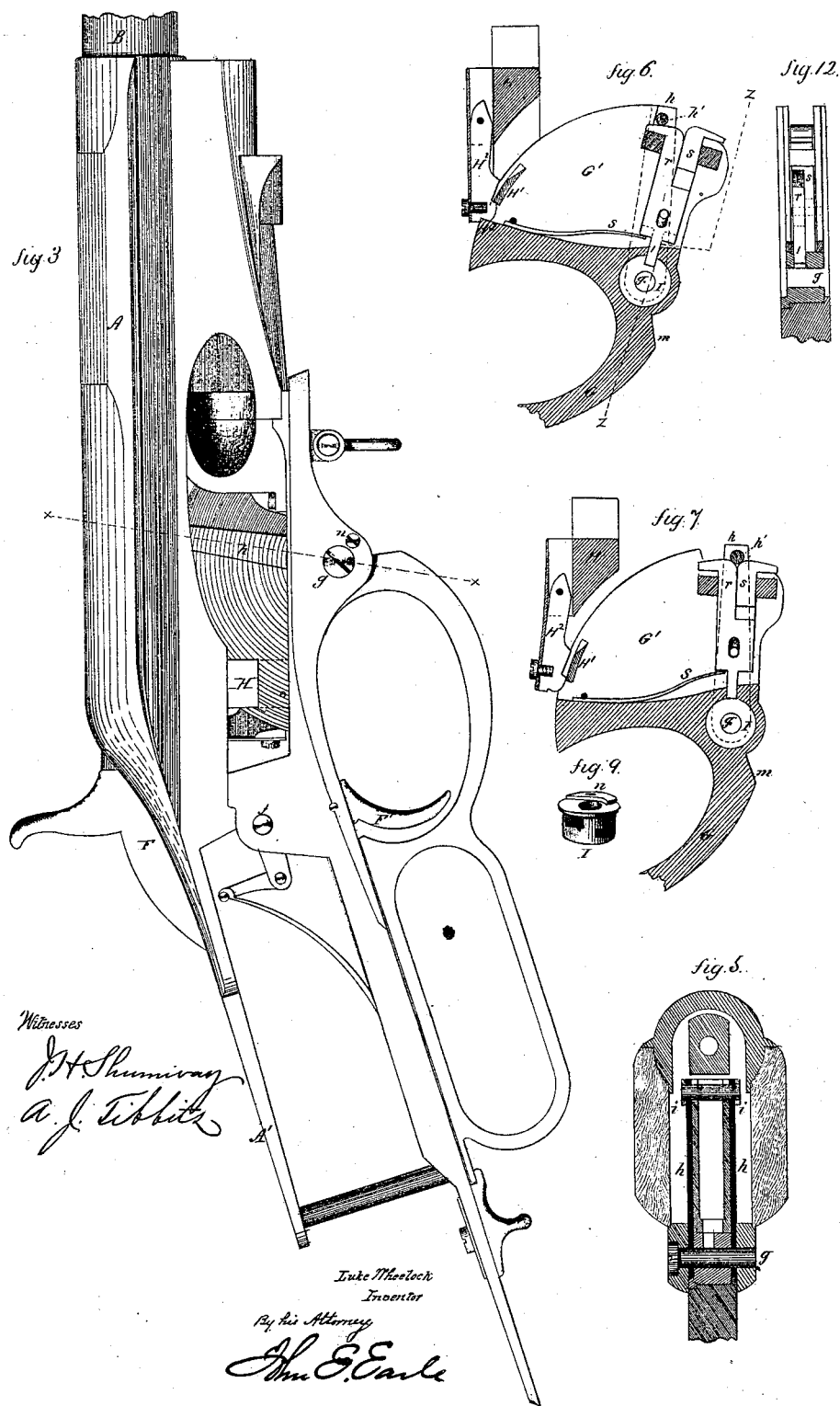
Patented Jan. 31, 1871.



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Witnesses

J. H. Shumway  
A. J. Tibbitts

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Inventor

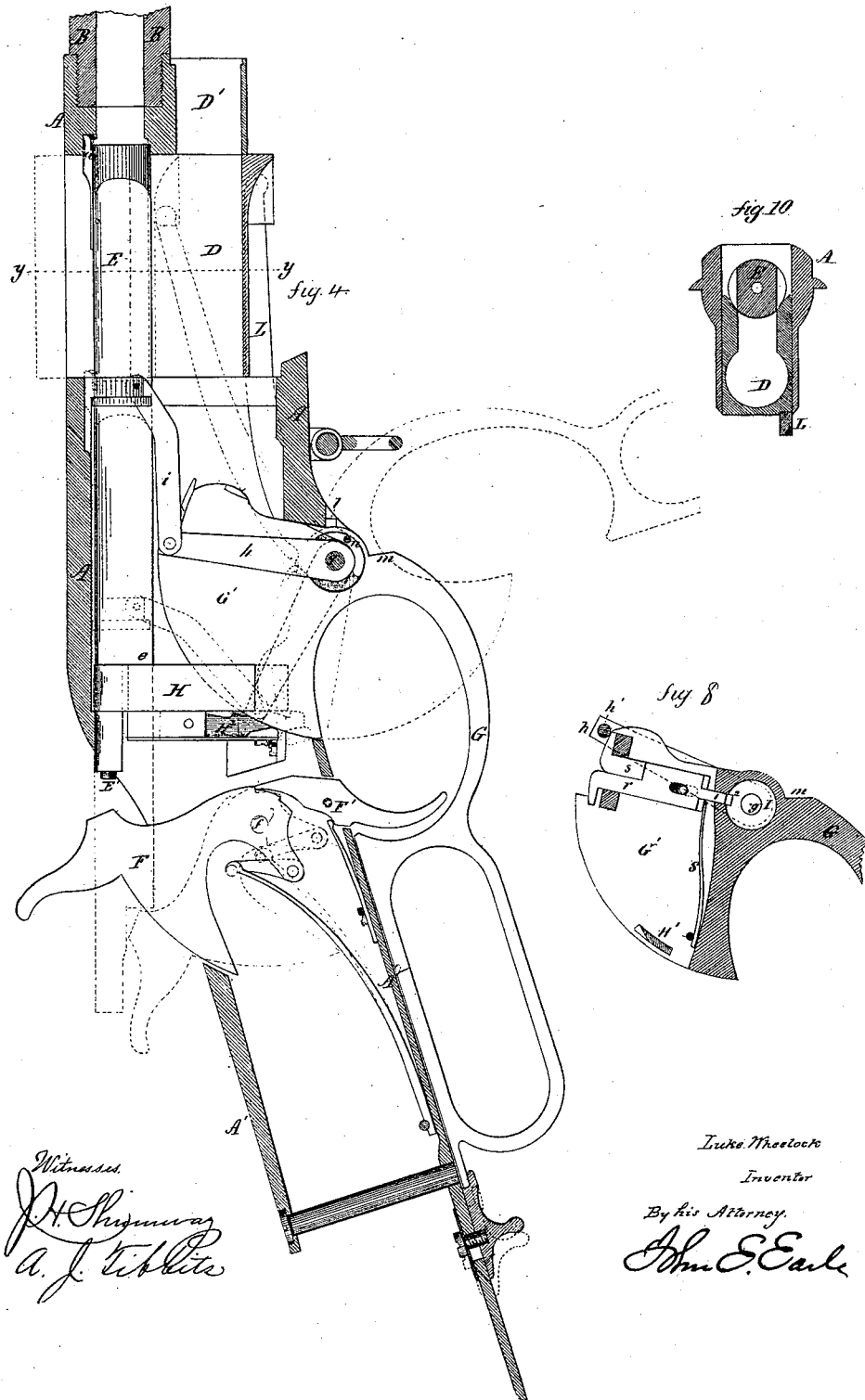
By his Attorney

John S. Earle

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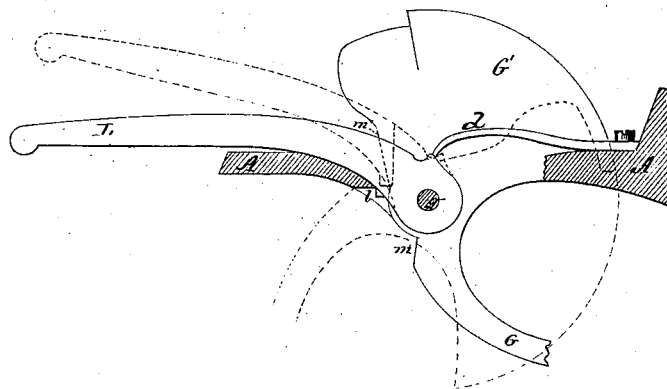
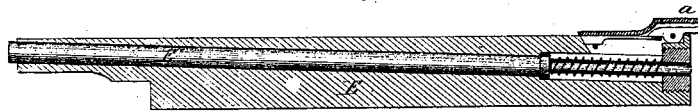
L. WHEELLOCK.  
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4 Sheets—Sheet 4.

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fig. 11



Witnesses:  
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Luke Wheelock  
Inventor  
By his Attorney,  
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# UNITED STATES PATENT OFFICE.

LUKE WHEELOCK, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE  
WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

## IMPROVEMENT IN REPEATING FIRE-ARMS.

Specification forming part of Letters Patent No. 111,500, dated January 31, 1871.

*To all whom it may concern:*

Be it known that I, LUKE WHEELOCK, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Repeating Fire-Arms; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a side view; Fig. 2, a top view; Fig. 3, a side view, the stock removed; Fig. 4, a longitudinal sectional view; Fig. 5, a transverse section on line *xx*; Figs. 6 to 13, inclusive, detached views to illustrate the operation.

This invention relates to an improvement in the arm known as the "Winchester repeating fire-arm"—that is to say, an arm provided with a magazine to supply the charges to a mechanism which translates the charges from the magazine to the barrel for discharge; and the invention consists in the peculiar mechanism for thus transferring the charge, as more fully hereafter described.

A is the frame, within which the operative mechanism is arranged, and to which said frame the barrel B is secured by being fitted and screwed into the forward end of the frame, as seen in Fig. 4.

The frame, extending back, is formed into a tang, A<sup>1</sup>, upon the upper side, by which it is secured to the stock C, and also extending down through the frame, forming a plate, A<sup>2</sup>, upon the under side of the frame.

D is the carrier-block, (shown in section, Fig. 10,) arranged in a chamber in the frame, to play freely up and down from the position in Fig. 4 to that denoted in dotted lines in same figure, in like manner as in the Winchester arm before referred to, to translate the cartridges from the magazine, which opens through the frame at D', to a position to be inserted into the barrel.

E is the breech-pin, arranged longitudinally in the frame, and in line with the axis

of the barrel B, and extends back to the hammer F, pivoted in the frame at *f*.

Through the breech-pin, as shown in the longitudinal section of the pin in Fig. 11, a firing-spindle, E', extends the entire length, with a spring arranged thereon, the tendency of which is to force the spindle to the rear.

The forward end of the said pin is constructed to strike the cartridge at a point to cause the explosion when the hammer is relieved from full-cock to fly back and strike the rear end of the spindle. This arrangement, as also that of the trigger, is substantially the same as in the said Winchester repeating-arm.

G is the finger-lever and trigger-guard, by means of which power is communicated to operate the mechanism of the arm. This lever is pivoted upon a fulcrum at a point, *g*, in the frame, upon which the lever may be turned down and forward to the position denoted in broken lines, Fig. 4, and returned, which movement causes the operation of the mechanism of the arm.

The upper end, G', of the lever G extends up into the frame, and is shown in longitudinal sections, Figs. 6, 7, and 8.

The lever G is connected to the breech-pin E by arms *h h*, one upon either side, extending from the fulcrum of the lever up to connecting-rods *i*, pivoted to the ends of the arms *h* and to the piston-rod, as seen in Fig. 4.

A shoulder on the part G' of the finger-lever bears against the rear edge of the arms *h*, to force the breech-pin forward, as denoted in Fig. 4, which is the position for firing.

To lock the breech-pin in this position to resist the recoil, a vertical bolt, H, is arranged in the frame to move up and down, and when up sits behind a shoulder, *e*, on the breech-pin, and thus securely holds the breech-pin forward.

To operate the bolt H, a cam, H<sup>1</sup>, is formed on the surface of the upper end, G', of the lever; and on the bolt H a lever, H<sup>2</sup>, is hung, the lower end or nose of which, when the bolt is thrown up, falls below the cam H<sup>1</sup> and rests upon the lever, as shown at H<sup>3</sup>, Fig. 6;

but when the lever is turned downward the cam  $H^1$  draws down the bolt  $H$  until it strikes the frame, as denoted in broken lines, Figs. 3 and 4. At that point the cam throws out the lever  $H^2$ , as denoted in Fig. 7, and frees the bolt from the action of the lever, and also frees the breech-pin from the locking-bolt. As this operation must be performed before the breech-pin can be moved, it follows that the connection between the pin and the lever must remain stationary while the bolt is being unlocked. To do this I form a cylinder,  $I$ , set within the lever  $G$ , and which forms a bearing for the said lever to turn upon, the said cylinder being held in position by a set-screw,  $n$ , which extends through into the said cylinder, and this cylinder is provided with two mortises. (Denoted in solid black, Fig. 9.)

In the upper arm of the lever  $G$  are arranged two slides,  $r$   $s$ , to move freely up and down and rest upon a spring,  $S$ . Each of these slides is provided, respectively, with projections 1 2, which pass through a mortise in the lever, so as to come in contact with the surface of the cylinder  $I$ .

Between the upper ends of the two arms  $h$  a bar,  $h'$ , extends across over the upper end of the slides  $r$   $s$ . The upper ends of the said slides are formed of the arc of a circle, the center of which is the pivot of the lever  $G$ ; but at the meeting-points of the upper end of the said slides they are rounded off or inclined, so as to form a notch between the two, as seen in Fig. 7.

In the position denoted in Fig. 6 the lever  $G$  is in such position that the projection 1 of the slide  $r$  will pass into one of the mortises on the cylinder, as denoted in section in Fig. 12, the arms  $h$  setting back against the shoulder on the upper part of the lever. In this position the lever can be turned freely without effect upon the arms  $h$  until the lever has been thrown so far down that the bar comes in contact with the forward slide,  $s$ , and when arrived at this point the locking device is freed from the action of the lever, and the continued movement of the lever will then draw back the breech-pin to the position denoted in broken lines, Fig. 4. In this movement the hammer is thrown back to full-cock, as denoted in Fig. 4, where it is held by the trigger  $F'$ . Arriving at this position, it is now necessary to throw up the carrier-block to transfer the cartridge which has been supplied thereto from the magazine. To do this a lever,  $L$ , is hung in the frame upon the same center as the lever  $G$ , with a projection,  $l$ , extending down forward of the barrel.

When the lever  $G$  has arrived at the position last described, a shoulder,  $m$ , on the lever strikes the said projection  $l$  and throws up the lever  $L$  to the position denoted in broken lines Fig. 4, and the said lever, being connected or working in a seat in the carrier  $D$ ,

throws the carrier up also to the position denoted in broken lines, which presents the cartridge which has passed from the magazine into the carrier in line with the barrel. While this movement of the carrier-block is being made the breech-pin stands still; and to allow of this still position of the breech-pin when the pin has arrived at the point of its extreme movement, the lever  $G$  has turned so far upon the cylinder that one of the mortises in the cylinder lies directly below the projection  $l$  of the slide  $s$ . Hence the slide  $s$  is passed down until the bar  $h'$  passes thereover to the position seen in Fig. 8. Returning the lever, the cylinder remains, the arms  $h$  pass back to the position denoted in Fig. 7, where they are held until the lever  $G$  is so far raised as to throw the piston through the carrier-block and hard against the cartridge which it has carried into the barrel. At that time the slide  $r$  comes over its mortise in the cylinder  $I$  and drops therein, as denoted in Fig. 6; then, as the lever advances, passes back to the position also denoted in Fig. 6, during the last portion of which movement the breech-pin is locked, as before described, and the lever  $L$ , with the block  $D$ , drawn down by a second shoulder,  $m'$ , of the lever  $G$  striking against a corresponding point on the lever  $L$ . The arm is now in position for firing, which is performed by releasing the hammer in the usual manner, the hammer striking the firing-spindle, which explodes the cartridge.

To retract the exploded shell, (or cartridge, if required,) a hook,  $a$ , is arranged upon the upper side of the breech-pin to catch onto the flange of the cartridge. Therefore, when the breech-pin is withdrawn, as before described, the cartridge is withdrawn with it over the carrier, so that when the carrier is raised it will throw the shell upward; and to give to the carrier a quick movement to eject the shell entirely from the arm, a spring,  $d$ , is arranged, bearing upon the lever  $L$ , as seen in Fig. 13, which, as the lever  $L$  rises, passes over and down into a notch on the said lever, tending at the last portion of its stroke to give a quick movement to the lever and the carrier to which it is attached, which is sufficient to throw the shell from the arm.

I claim as my invention—

1. The combination of the breech-pin  $E$  and lever  $G$ , constructed with the shouldered portion  $G'$ , the arm or arms  $h$ , and connecting-rods  $i$ , for the operation of the breech-pin, substantially as set forth.

2. In combination with the breech-pin  $E$ , constructed with the shoulder  $e$ , the lever  $G$ , provided with the cam  $H^1$  and the lock-bolt  $H$ , operating to secure the breech-pin, substantially in the manner set forth.

3. In combination with the cylinder  $I$ , arranged upon or so as to form the bearing of the lever  $G$ , the slide  $r$ , arranged upon the said lever  $G$ , and the arm or arms  $h$ , provided

with the bar *h'*, a locking device substantially such as described, and arranged to operate during the passage of the said bar *h'* over the said slide *r*.

4. In combination with the cylinder *I*, arranged upon or so as to form the bearing of the lever *G*, the slide *s*, arranged upon the said lever *G*, and the arm or arms *h*, provided

with the bar *h'*, the lever *L*, and carrier-block *D*, arranged to operate the said lever *L* during the passage of the said bar *h'* over the said slide *s*, substantially as set forth.

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Witnesses:

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